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ABSTRACT

The Instructional Planning Team is based on the Research and Instruction Unit of the Wisconsin R & D Center for Cognitive Learning. To determine if the IPT as an organizational arrangement would increase the ability of a group of classroom teachers to use research-based information to improve their instructional program, a pilot test was conducted at one California high school during the 1968-69 school year. As an experiment in research product utilization, the project was unsuccessful and was consequently terminated in June 1969. Two major problems were (1) the overambitiousness of the inservice training program in its scope and in its demands on teachers; and (2) the inability of the activities presented (as a rational sequence of tasks) to solve the dilemma of teachers caught between two mutually incompatible roles -- instructors in a continuous classroom program and trainees and researchers in the concepts and skills needed to develop the program in the direction the pilot study required. Nevertheless, quality reports by the Team indicated that students benefited from the project through increased enthusiasm for the course work as well as through improved social behavior. (Author/JH)

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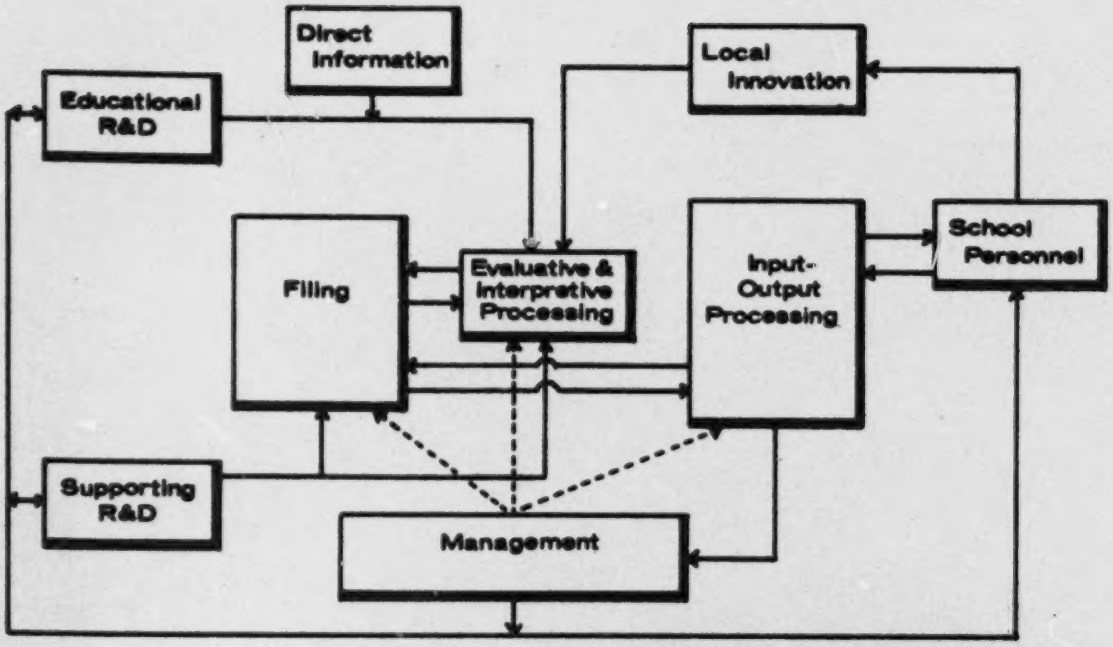

THE INSTRUCTIONAL PLANNING TEAM:

AN ORGANIZATIONAL ARRANGEMENT TO ACCOMPLISH PLANNING, TEACHING & EVALUATION IN A SCHOOL

A PILOT STUDY

EA 004 403

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The Nevada State Board of Education
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The Utah State Board of Education

The Instructional Planning Team is based upon the Research and Instructional Unit (now called the I&R Unit) of the Wisconsin R&D Center for Cognitive Learning. Because of the many differences between this adaptation and its prototype, we have changed the name. The R&D Council Minutes and R&I Unit Reports referenced herein courtesy Tamalpais Union High School District, Larkspur, California.

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THE INSTRUCTIONAL PLANNING TEAM:

AN ORGANIZATIONAL ARRANGEMENT TO ACCOMPLISH

PLANNING, TEACHING, AND EVALUATION

IN A SCHOOL

A Pilot Study

by

David H. Carlisle
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October 1971

Far West Laboratory for Educational Research and Development,
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Foreword

This report is based on the records of a pilot study carried out by Dr. David Carlisle during school year 1968-69. He had overall responsibility for conduct of the study and served as Laboratory Consultant to the Instructional Planning Team throughout the project. Dr. Carlisle is presently director of research, development and planning at Pleasanton Joint Elementary District and Amador Valley Joint Union High School District, Pleasanton, California.

Brenda Whitney of the Laboratory staff assisted as Observer and Recorder of the project during its later stages. Other Laboratory personnel who assisted with materials search or as training and skill consultants included Mrs. Linda York and Miss Sandra Crosby.

Miss Pat Cone has undertaken the task of reviewing the entire project from its beginning and reporting briefly on the aspects of most interest to educational planners and decision makers. The responsibility for supervising final review and publication was assumed by Dr. Robert Peterson, with the assistance of Charles Jenks and Mrs. Linda York.

Paul D. Hood
Director
Communication Program

Preface

Schools are presently under considerable pressure to improve their instructional programs. Typically this has been a do-it-yourself project which has made little effective use of available research and development resources and often has resulted in poorly planned and poorly evaluated programs. A major objective of the Far West Laboratory for Educational Research and Development is the development of organizational arrangements within local school systems that would facilitate the use of R&D information for instructional planning and rational decision making.

An extensive search of promising organizational arrangements (York, 1968) identified two which seemed worth careful examination: the School Research Office (Mosher, 1968) on the district level; and the Research and Instructional Unit (Klausmeier & Cook, 1967). The latter, since renamed the Instructional and Research (I&R) Unit, is an invention of the Wisconsin R&D Center for Cognitive Learning at the University of Wisconsin. Basically it is a team teaching arrangement, whose main objectives are to increase the efficiency of student learning in subject matter of high cognitive content, and to facilitate the carrying out of R&D activities in a school.

After field visits to I&R Unit sites and careful study of the Unit, the Laboratory modified the basic arrangement considerably to bring the structure and operation closer to its own objective of increasing educational planning and R&D utilization in a school. The modified version of the I&R Unit is called the Instructional Planning Team (IPT). The Laboratory evaluated the potential of this modified version in a pilot study during the 1968-69 school year at Redwood High School, Tamalpais Union High School District, Larkspur, California.

This report is the story of the pilot study in brief. It is the hope of the Communication Program of the Far West Laboratory that the report will provide sufficient background and exploration of the concept so that teachers and administrators may decide whether the instructional planning team would be worth trying in their own situations. The study is intended as a companion volume to What About the School Research Office? (Mosher, 1968), a study of a promising model for research utilization at the district level.

David H. Carlisle
Laboratory Consultant
to Instructional Planning Team

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I. RATIONALE AND OBJECTIVES

The interest of the Communication Program of the Far West Laboratory in pilot testing the Instructional and Research Unit was an outcome of the Laboratory's basic commitment to increasing the opportunities of children to learn, and in particular of the Communication Program's goal of decreasing the time and distance between educational R&D and its effective application in the classroom (Revision of the Basic Program Plan of the Communication Program, 1969). A Laboratory Task Force on requirements for educational R&D information systems, in the summer of 1967, identified two major, pervasive needs which must be met to fulfill this goal: (a) improving the quality and utility of R&D information before it reaches the schools, and (b) improving the capability of school personnel to use it -- that is, to plan, program and manage instruction so as to make the best use of R&D information and products (Goney, Plaskett, Roggenbuck & Hood, 1968).

The possibilities of an integrated approach to these two needs were assessed at length. Perhaps the Laboratory could provide packaged R&D information for school use along with an effective organizational structure for making use of the information, and the necessary training to ensure that the structure would work effectively. In this way the Communication Program would assist both the local school decision makers and the developers, distributors, specialists and consultants in educational information and dissemination.

Assessment of available developments for facilitating research utilization revealed that no single organizational arrangement existed which was applicable to all phases of R&D utilization (York 1968). The school research office was a well established arrangement at the district level for large and medium sized districts. Research councils and regional supplementary centers, while useful, provided their services only at the requests of districts; they did not afford a continuing organizational basis upon which utilization could be carried out.

Of arrangements in actual operation at the school-building level, the Instructional and Research (I&R) Unit[1] of Project MODELS appeared to be a promising alternative. Project MODELS of the Wisconsin R&D Center for Cognitive Learning had started with two main objectives: to increase efficiency of student learning in subject matter of high cognitive content, and to provide a facilitative environment for carrying out R&D activities of the Center and of the local schools. The basic organizational structure of Project MODELS was the I&R Unit in a school. As Figure 1 shows, the I&R Unit is essentially a team teaching arrangement. It comprises two or more teachers who are given a common hour of released time daily for Unit-related tasks; a Unit Leader who is also a teacher, chosen by the R&D Center and the principal, who devotes a third to a half of his time to planning and

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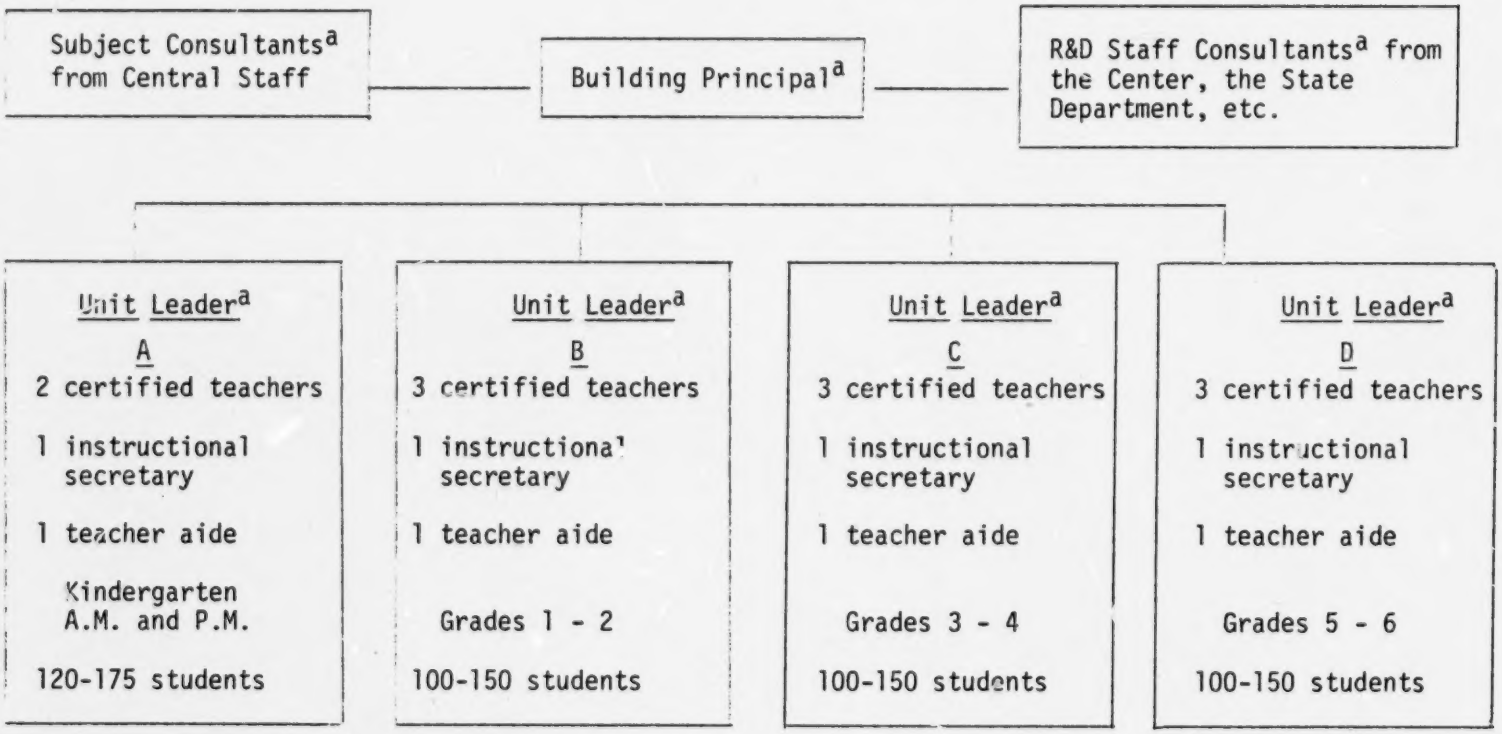
[1] Called at the time the Research and Instruction (R&I) Unit.

Figure 1

Prototype Organization of Elementary School
With Several Instructional and Research Units



Note.--Adapted from Klausmeier & Cook, 1967, Figs. 1 & 2

[a]The school's decision-making committee (Instructional Committee) is composed of these persons.

guidance functions, the remainder to teaching; an instructional secretary; a non-certified teacher aide; and the students. Linked with this group in varying relationships are a consultant from the Center, the school principal, subject matter consultants (mostly from the Center) and certain district central staff members.

An important characteristic of this organizational arrangement is the flexibility it permits in the grouping of pupils, the scheduling of instruction and variety of teaching methods, and the role of the teachers in the classroom-- from large group instruction, to small group, to individualized instruction. In any pupil grouping or teaching role it encourages experimentation with innovative methods. The Unit may be organized by grade level or subject field in an elementary school or by subject fields in a secondary school. The Unit Leader coordinates the research activities in conjunction with the district office and the R&D Center. The instructional decision-making committee of the school is composed of the principal and all the Unit Leaders. The Center conducts workshops and training institutes for the personnel of all Units, and has also produced self-instructional orientation and training by videotape.[2]

The literature on the I&R Unit indicated the sponsors' belief that through use of this arrangement sophisticated research could be carried out in the school without disrupting school operations, and in addition innovative instructional programs could be field tested and demonstrated.

The Communication Program set up criteria and sub-criteria for determining whether the I&R Unit warranted field testing and refinement as a possible organizational arrangement for accomplishing Communication Program goals. The criteria pertained to knowledge utilization functions, institutional settings, personnel and financial resources, and organization. In a field visit by Laboratory personnel to twelve schoolbuilding R&I Units in the area of the Wisconsin Center, the criteria were checked out through interviews and observation. In addition, the Laboratory visitor interviewed staff of the Wisconsin Center, the Wisconsin State Department of Public Instruction and the central offices of the local school districts.[3]

A recurring question presented itself to Laboratory staff as they examined the concept: Was it possible to borrow on the organizational structure of the I&R Unit, to modify it in certain respects for achievement of the Laboratory's goal of facilitating the rational use of research-based information by school personnel? Further, could the Unit be designed to allow the Laboratory to phase out its participation after a year or two? Would the Unit develop the necessary R&D utilization skills to carry on, as it became a recognized part of the school district's structure, and as local funding developed?

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2 For a more detailed description of the I&R Unit see Klausmeier and and Cook, 1967, and Smith, 1967.

3 The unpublished manuscript cited (Carlisle 1968) contains the criteria, the various interview guides used, procedures and findings.

It appeared that a modified version of the I&R Unit might create an environment in which selecting field testing, adapting and demonstrating products of educational R&D could become part of the decision-making processes at the schoolbuilding level.

As modifications developed a number of basic differences evolved between the Wisconsin I&R Unit[4] and the instructional planning, teaching, and evaluation team which was emerging (Figure 2).

On the other hand, certain definite similarities exist between the two arrangements. Both are essentially team teaching operations, with schoolbuilding personnel trained and aided in various ways by R&D staff and drawing upon district staff as well as the principal for support. Both are coordinated by "leaders" who are themselves teachers in the programs and so are closely tied in to the teachers' concerns. In both arrangements the teachers themselves carry out research and innovational activities, and for this purpose receive a joint hour of released time in addition to their normal free periods.

In summary, the objectives of the field test of the modified I&R Unit, or Instructional Planning Team, were to determine:

1. The effectiveness of this organizational arrangement as a means for enabling the schools to make better use of R&D products.

2. The specific requirements for training and materials to facilitate effective performance by such a Team.

3. The extent to which the Laboratory could make available the needed materials.

4. The extent to which the Laboratory could accomplish the needed training.

5. Whether the training and experience could provide the capability on the part of the Team to continue without Laboratory assistance and guidance.

The Laboratory follows seven general phases in development of both products and systems. By rigorously following these procedures and making decisions at each stage regarding continuation, revision, or discontinuation of the activity, the Laboratory assures educators that its products are thoroughly tested and effective. The decision points between phases require answers to these questions:

Phase 1. Is there a need, a supporting technology and an adequate conceptualization?

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[4] The I&R model has since been undergoing further development and refinement. See Klausmeier, Morrow and Walter, 1968, Klausmeier and Quilling, 1968, and Quilling, 1968.

Figure 2

A Comparison of the Instructional and Research Unit and the Instructional Planning Team

I&R Model as Developed at Time of Pilot Study	Instructional Planning Team
Primarily in elementary schools.	Secondary school.
Grade-level structure.	Subject-field structure.
Complete "Unitization" of the school anticipated.	One or more teams in the school, as desirable.
A component of Project MODELS, a cooperative activity of the Center, the District, and the SDPI.	A cooperative activity among the Laboratory, the School and the District.
Composed of Unit Leader, two or more other teachers, one or more non-certified adults, a Center Consultant, and several Center personnel with specialized subject knowledge.	Composed of Team Leader, four other teachers, one non-certified adult (part-time), a Laboratory Consultant, and occasional Laboratory staff as consultants or researchers.
Innovation recommended and guided by Center Consultant.	Planning by Team; guidance by Laboratory Consultant.
Team teaching well established before starting research utilization activities.	Immediate start on research utilization activities.
Emphasis: Pre-service training in Unit functions, procedures, basic research concepts, subject matter approaches.	Emphasis: In-service training in research utilization skills, to enable Team to continue independently.
Purpose: To develop and improve an exemplary instructional program through R&D and innovation; and to provide the Center with a mechanism for controlled experimentation, field testing, and demonstration.	Purpose: To increase the ability of teachers to use research-based information to improve their instructional programs.
Tasks: A needs assessment, a classroom demonstration, and testing of an instructional innovation.	Tasks: A needs assessment, definition of problems, investigation of alternative solutions, search and selection of instructional innovations, testing and evaluation of the innovations.
Financial resources: District funds, Center funds, State Department of Public Instruction funds.	Financial resources: District funds, Laboratory funds. (Pilot test additionally funded by OE small-projects grant.)

Phase 2. Is the prototype product sufficiently well designed and developed to merit testing?

Phase 3. Does the preliminary field-test evaluation support the product's feasibility for meeting its objectives?

Phase 4. Does the complete model meet performance specifications?

Phase 5. Is the operational model ready for release?

Phase 6. Is there an adequate plan for dissemination?

Phase 7. Is the product being used as intended, and are revisions in the general model indicated?

The first three phases were completed in this pilot study: Phase 1, thorough review of the pertinent literature and practices, site visits, and development of initial specifications for the proposed product (in this case, the organizational arrangement); Phase 2, development of a preliminary product to a point of readiness for initial testing; and Phase 3, preliminary field testing for feasibility as an idea for further development. In this pilot study Phases 2 and 3 were more or less simultaneous. During Phase 3 many further modifications evolved, so that in effect development and initial testing occurred together. Development work was terminated at the conclusion of Phase 3, since the answer at that decision point was negative: The results of the experience up to that point did not support further development in terms of Communication Program goals-- even though the arrangement did show potential for meeting other worthwhile objectives.

II. PROCEDURE

The central question of the Study, as indicated in the preceding chapter, was whether the Instructional Planning Team (modified I&R Unit) as an organizational arrangement would increase the ability of a group of classroom teachers to use research-based information to improve their instructional program.

The Study was conducted in two stages:

Preoperational (February 1968 through August 1968)
Choosing of participants and preliminary training

Operational (September 1968 through June 1969)
In-service training in research utilization skills.

Preoperational Phase

Selection of Site

The Laboratory prepared a set of guidelines (Carlisle, 1969, P. 15) for choosing a site for the pilot test, and collected data on available sites in the area. It also reviewed its contacts with nearby school districts which had shown interest in testing and evaluation relationships with the Laboratory. The Tamalpais Union High School District was selected as best meeting the selection criteria for a potentially self-sustaining arrangement. Redwood High School, of the three in the District, appeared to present a particularly appropriate environment for the pilot test, as will be seen. The District R&D Council became the sponsoring entity in the district to which the Instructional Planning Team reported.

Description of Site

The three comprehensive high schools in Tamalpais Union High School District served at that time nearly 6,000 regular day students. The District encompasses the populous southern portion (approximately two-thirds of the population) of Marin County, a "bedroom" area just across the Golden Gate Bridge from San Francisco.

Redwood High School itself had about 2,450 students. Most of the students come from white upper-middle and upper class homes. Approximately 80 percent sought post-high school education. Quality instruction was considered the primary task of the schools by the community and by school personnel. The District's commitment to maintain small classes and high teacher salaries was shown in its 1966-67 ranking of second in per pupil costs among 33 California high school districts of comparable average daily attendance (Tamalpais Union High School District, 1967). In 1967-68 the

District ranked fourth among 96 high school districts in average teacher salary, and first among those of equivalent size (Tamalpais Union High School District, 1968).

The organizational structure of the high school was not highly centralized. Administrative and pupil personnel services were viewed as auxiliary to the main function of providing excellent education. The major organizational unit was a school-wide Instruction Committee, composed of "curriculum associates" from the subject departments, the school psychologist, the head librarian, and the head counselor. With faculty assistance, this committee supervised curriculum development and evaluation within the various departments. The key roles of the curriculum associates were made possible by released time of an hour a day.

The climate of professional opinion on the role of the teacher was right for the testing of the Instructional Planning Team arrangement. In 1967 the curriculum associates submitted six recommendations which were instrumental in influencing the administrative staff to restructure organization in 1967-68 (Redwood High School, 1967)[5] The recommendations inferred that Redwood faculty perceived themselves as professionals who want to maximize their involvement in instructional planning and minimize their participation in routine management functions. The curriculum associates felt that an adequate plan should: (a) emphasize instruction, because it is the goal set for the school by the community; (b) place secondary emphasis on meeting the personal and social needs of the students: (c) provide teachers with maximum autonomy to perform basic professional functions; (d) exclude the professional staff from the performance of routine operational tasks whenever possible; (e) capitalize on the collective expertise of the instructional staff by involving them in decision making.

Selection of the American Government Course in the Social Studies Department as the specific site of the Study was influenced by several considerations: the Department had been slow to try new curricula; many of the social studies curricula needed evaluation; there was a likelihood of funding through ESEA Title III; coordination with the efforts of the Social Science Consortium in the county's high schools was a possibility; and the Far West Laboratory already had an interest in this subject field and was developing an Information Unit[6] on American Government programs.

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5 For a complete analysis of the site, including a detailed description of the school's organization, steps employed in changing the course of study, and the experience and training of Social Studies teachers and pilot test Team, see Carlisle, 1969, Pp. 24-37. This report was later used as a model for a district-wide study of the school organizational structure, commissioned by the District to a management consultant firm.

6 An Information Unit in the sense used by the Far West Laboratory is an integrated package, in several media, of information about curriculum materials in a particular field of knowledge. It is for the use of planners and teachers who are seeking appropriate material for adoption. The reader should note that this is not an organizational arrangement as is "Unit" in the sense used by the Wisconsin R&D Center for its I&R Unit.

The majority of social studies teachers at Redwood High School had had training equalling or exceeding that required for a Master's degree. The specialized expertise of individual faculty members was reflected in an unusually diversified curriculum.

The American Government course involving five teachers and 520 students represented a primary concern to the Department. Less curriculum revision had been done through summer teachers' workshops than in other social studies areas, and no recent studies had been made regarding desirable objectives for the course. Neither had any district-wide or departmental effort been focused on evaluation of the course. American Government teachers were aware of course deficiencies, sensitive to the need for improvement, and willing to examine new ideas in cooperation with the Laboratory on an experimental basis.

Resources

Personnel. The five teachers who were to assume the key roles in the Pilot Test were partly volunteers and partly conscripted. Among them they represented additional disciplines in political science, history, music, anthropology, and psychology. The Unit Leader was also Social Studies Department Chairman and Curriculum Associate. He had had by far the most actual teaching experience of any of the team (18 years).

One member of the team held the Master's degree. Although two members had been exposed to statistics in college, the team as a whole had no formal skills in interpreting and using research findings when the study began.

The Laboratory Consultant, Dr. David Carlisle, had had nine years' experience in education, including two years of teaching, a year of instructional research in a high school district, two years as Field Service consultant at the University of California, Berkeley, and two years as Program Associate at the Far West Laboratory. During the fall semester Dr. Carlisle was both consultant and recorder of the Team sessions. The Laboratory was able to provide an assistant for the second semester, who attended all meetings as official observer and recorder.

Other personnel of the Far West Laboratory assisted with documentation of the project, conducted searches for materials, or consulted on specific aspects of the training.

Supporting administrative personnel of the school district included the school principal, the assistant superintendent, the special projects coordinator, the director of instruction, the social studies supervisor, and the school psychologist. The roles and responsibilities of the participants, including the supporting personnel, were specified in the preliminary planning documents worked out between the Laboratory and District personnel (Far West Laboratory, Communication Program, 1969b).

The Laboratory Consultant had the primary responsibility for guiding and assisting the research and in-service training activities, retrieval or development of support materials as needed, and assisting in funding operations.

The Team Leader taught half-time and acted as chief liaison between the Team and other district, school and Laboratory personnel. His research duties encompassed participation with the teachers in administering the experimental treatments, data collection and analysis, the introduction and evaluation of instructional innovations, and the diffusion of promising practices throughout the district.

The responsibilities of the four other IPT teachers centered around daily instruction, joint planning, and research tasks, for which they were given common released time of one hour per day in mid-morning. The team members soon found themselves spending additional time after school, and after two months requested that their time be changed to the final hour of the school day in Spring semester, to allow consecutive work on their joint activities. This change in scheduling was not possible. The Team actually worked together after school almost daily for most of the year, including a weekly session with the Laboratory Consultant.

The supporting district personnel assumed various responsibilities, including the following:

The school principal was responsible for initial staffing, assignment of facilities, equipment and released time, and continuing coordination with the total school program.

The assistant superintendent shared primary responsibility for organizing the Team, obtaining its funding, and reporting its progress to the funding agencies--the U.S. Office of Education and the district's R&D Council.

The special projects coordinator, as administrator of all small grants and ad hoc institutes in the district, acted as primary liaison between the district and Laboratory, and shared responsibility for resource assistance, reports, and evaluative studies of the Team.

The director of instruction assisted in the initial arrangements and had primary responsibility for judging the value of the IPT in its Redwood High School setting.

The social studies supervisor helped with in-service training and assisted in the needs assessment activities and search and retrieval of materials.

The school psychologist served as counselor to the Team members in their joint planning experiences and in interpretation of student needs assessment activities and results.[7]

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[7] See Appendix A for a breakdown of responsibilities assumed by the various personnel involved in the pilot study. See also Carlisle, 1969, for a summary of the training, experience, and time commitments of major personnel, Table 14, Pp. 48-49.

Financial. The pilot study activities were supported by District funds, Laboratory funds, and a special U. S. Office of Education Small Projects Grant. District funds included a $2500 grant from the budget of the District R&D Council to cover costs of the summer Training and Planning Seminar. Table 1 contains estimated costs of supporting the IPT activities in terms of their sources.

Preliminary Training

The Instructional Planning Team for the 1968-69 school year was chosen in April of the previous spring semester, and during the rest of that semester it held weekly orientation and planning meetings with the Laboratory Consultant. In May it began reviewing statements of goals and objectives developed by other districts for American Government courses, standardized achievement tests suitable for American Government, and five needs assessment instruments developed by various Supplementary Educational Centers. The Team selected a needs assessment test (the Santa Clara County Supplementary Educational Center Needs Assessment No. 2) and a standardized civics test (the ETS Cooperative Social Studies Test, Form A: Civics), and in June administered them to outgoing seniors in American Government classes.

In preparation for a two-week preoperational Planning and Training Seminar the team met in August with consultants, Laboratory staff, and district staff to refine training goals. The Seminar just before the Fall semester attempted to introduce team members to the research process, to clarify roles and functions of the Team and Laboratory staff, develop a work calendar, and examine the Team's physical and instructional resources for its activities. Outside specialists presented techniques in research methodology in the areas of student-needs assessment, translation of student needs into problem statements, information on search and retrieval, and writing performance objectives.[8] As part of the introduction to research methods the needs assessment data collected in June were analyzed; the findings were used to prepare a 50-item questionnaire which also included items from "Curricular Need Study No. 1" of the North Bay PACE Center, and from "Survey of Educational Needs," Orange County, California, 1966.

Operational Phase

The planned content of the in-service training included a sequence of seven skills in R&D utilization by which the Instructional Planning Team might appraise, select, and test new ideas and products for Instructional improvement:

1. Analysis of on-going instructional programs in terms of rationale, goals, objectives, content, and methods of instruction;

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[8] For a survey of the 10-session Planning and Training Seminar see Appendix B.

Table 1

Estimated Costs, IPT Pilot Study Activities by Sources

Source of Funds	Preoperational Phase		Operational Phase		Total in Dollars
	Activities		Activities		
Laboratory	Orientation Planning Pre-Service Training	3,558	All R&D Activities Advisory Evaluation Reporting Dissemination	[a] 26,685	30,243
District	Pro-rated Administrative Salaries Teachers' Compensation for summer seminar (including $2500 grant from R&D Council)	3,617	Pro-rated Administrative Salaries [c] Teachers' Overtime Compensation	5,765	[b] 9,382
U. S. Office of Education		0	Salaries Substitute Teacher (FT) to release Team one hour/day Clerical Aide (6 hours/week) Supplies & reports	9,752	9,752
Total		7,175		42,202	49,377

[a] Estimate based on actual costs to 5/1/69, plus projections from time commitments 9/1/68-7/31/69.

[b] Total projected District cost, had U.S.O.E. grant not been available = $19,134.

[c] Estimated value of uncompensated overtime of Team Teachers during operational phase = $6,305, which if paid would have brought the District cost for that phase to $12,070 and the total District cost to $15,687. Total cost of project for all sources would then have been $55,682.

2. Identification of student needs and determination of their priorities (needs assessment);

3. Translation of top-priority needs into a statement of the problem (problem formulation);

4. Examination of alternative solutions:

5. Search, appraisal, and selection for testing, of an R&D product related to the possible solutions;

6. Demonstration, testing, and evaluation of the chosen innovation;

7. Decision making, and planning for implementation of successful solutions.

In addition to this planned sequence, evaluation of the total experience in the IPT arrangement was emphasized and carried on throughout the project.

Methods

A functional, ad hoc approach to the training activities was attempted in the operational phase. The intent was to derive the training activities from specific needs of the moment so that the need would be seen and motivation would be present. In fact, the attempt did not succeed. Lack of a jointly understood terminology frequently made it difficult for the Team to see the need of a skill until after participating in and completing the activity. The built-in conflict between a functional approach and a planned sequence was unresolvable. Also, because the level of training in R&D skills was intended to be such as to enable the Team to continue independently, the tendency was strong to attempt to raise the teachers' competency in the activities faster than their initial understanding warranted.

According to plan, the Laboratory Consultant was to be available on request for guidance, discussion, information searches, and presentations of specific research utilization skills and techniques. By the end of the first month of the school year the Team decided to meet weekly after school, both to secure more time for joint activities and planning, and to have regular assistance from the Laboratory Consultant. Within another month the Team began meeting almost daily after school including the weekly sessions with the Consultant. The Consultant selected exemplary instruments for their examination from the files of the Laboratory and from the District's ERIC collection, and guided the Team through determination of methods for data analysis, selection of appropriate statistical treatments and instruction in their use. During the spring semester an additional member of the Laboratory staff attended all joint sessions as recorder and substituted for the Consultant when necessary. From time to time other Laboratory staff members consulted on various phases of the activities, as did staff from the school district.

As scheduled by the Instructional Planning Team during the pre-operational Planning and Training Seminar, the first five of the knowledge utilization tasks were to take place during the fall semester and the sixth and seventh during the spring semester. The scheduled and actual sequences of activities are shown in Figure 3.

Figure 4 shows the specific activities within the area of knowledge utilization skills in which the teachers participated or were given some direct training.

1. Analysis of the On-going Instructional Program

Initial work on the first two tasks actually began in May of the previous school year, during the preoperational phase. The first operational task was scheduled for August, before start of the fall semester, and the student-needs assessment would begin at the start of the school year and continue for two months.[9] However, the teachers had come to realize during the Seminar that they had not previously considered the current course in American Government in terms of rationale, goals, and objectives. The Laboratory Consultant felt that consensus on these matters was necessary before needs assessment and problem formulation could begin. The teachers had agreed at the Seminar on a broad goal: "To assist each student to look at himself; to help him understand why he is like he is; to help him understand the social-psychological, political, and economic factors that made him this way" (R&I Unit, 9/17/68). The Team developed a procedure, with the help of the Laboratory Consultant, by which they hoped to be able to reach consensus on objectives of the course in relation to this broad goal. However, the orientation program lacked guidelines for analysis of the ongoing instructional program, and eventually the Team proceeded with its second activity (needs assessment) since it could not collectively come to terms with the first one. (This lack of consensus on objectives of the American Government course continued to complicate operations throughout the study.)

2. Assessment of Student Needs

The purpose of the Needs Assessment was to identify important student needs as perceived by the students themselves, by educators, and by parents. Once identified, those needs which could be dealt with effectively in the American Government course could be determined.

The needs assessment study was scheduled to take two fall months, but as Figure 3 has shown it required nearly four months, necessitating a major revision of the schedule for the spring semester. The extended time used for the needs assessment study was the result of the teachers' intense interest in this particular phase, lack of appropriate methods and materials for orienting the Team, and inexpert planning. The records of Team meetings with the Consultant show that it was early December when for the first time the teachers began to understand the object of a needs assessment and how

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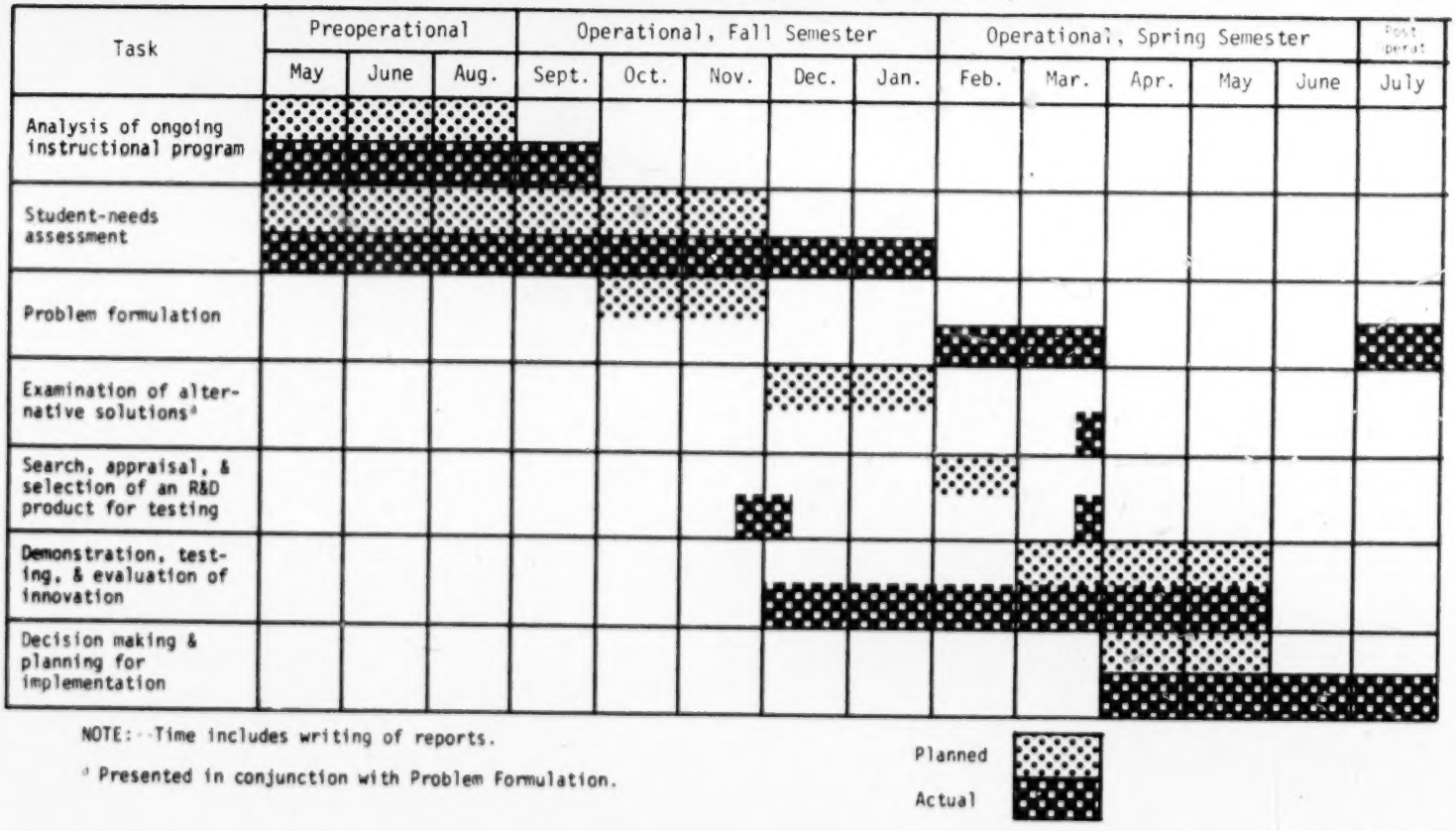
[9] For a more detailed chronicling of events as they occurred, see Far West Laboratory, Communication Program 1969c, Table Y, Pp. 58-64.

Figure 3

Planned Schedule of R&D Tasks Compared with Actual Sequence



NOTE: Time includes writing of reports.

[a] Presented in conjunction with Problem Formulation.

Figure 4

Training and Participation of Team in R&D Skills, and Products Developed

Knowledge Utiliz. Skill	Preliminary Training and Planning	In-Service (Participatory) Training	Product
Analysis of ongoing program	Reviewed goals & objectives of other districts for course	*Introduced to techniques of objective formulation	
	*Reviewed standardized achievement tests	Attempted consensus on objectives;* developed procedure for reaching consensus; continued attempt	
	Agreed on broad goals for course	Wrote report of Planning & Training Seminar	Preliminary Planning Report
Identification of student needs & determining their priorities	*Introduced to techniques of needs assessment	Developed & administered 3 tests & essay ques.	50-Item Qu'aire for students
		*Performed simple content analysis of essays	
	Reviewed exemplary needs assessment tests	*Interpreted results of sample analysis	Essay question for students
		Revised "long" student qu'aire for posttest	11-Item instrument for ranking needs, for educators, parents, & students
	Selected 2 standardized tests	*Introduced to sampling techniques, means & medians, data analysis, interpretation, reporting	
	Administered tests to seniors	*Reviewed exemplary reports & planned analysis & reporting	30-Item qu'aire for parents
	Evaluated 100 tests	*Administered, & analyzed data from, 2nd "long" student qu'aire	"Revised" 50-Item qu'aire for seniors
	Redesigned test	*Used Q-sort technique to compare items on "long" & "short" forms of qu'aire	
		Administered revised 50-Item qu'aire & *analyzed results	
		Analyzed final data & wrote report	Needs Assessment Report
Translation of top-priority needs into statements of	*Introduced to problem formulation techniques	*Introduced to problem formulation theory Selected 3 highest-priority needs for focus of course	

		Examined the 3 for relevance, reasonableness & teachability	
and Formulation of alternative solutions	*Introduced to techniques in writing objectives for student behavior	*Wrote goals & objectives for student behavior	Statement of student behavior objectives
		Selected subject-matter for experiment	
		Developed an evaluative method & pre- & post-tests for students; administered pretests	Pre- & posttests to evaluate teaching method
		*Wrote report, using "Problem Formulation Guide" designed by Laboratory Consultant	Problem Formulation Report
Search, appraisal & selection of R&D products related to the solution	*Introduced to techniques of information search & retrieval	*Reviewed SSRS materials from U. of Michigan	
		*Reviewed an Information Unit from FWL in Secondary Social Studies (under development)	
		*Reviewed Micro-Teaching technique from FWL (under development)	
		Selected two alternative teaching methods for testing & evaluation	
Demonstration, testing & evaluation of chosen solution(s)		Developed Micro-course; tested & evaluated	
		Tested enquiry method; evaluated, modified, re-tested	Modified enquiry method
		Modified Micro-course method to include simulation techniques; re-tested twice	Micro-course method & 14 micro-courses (in 3 sets of 4-5 each)
		*Investigated evaluation techniques such as semantic differential tests, attitude scales, parental qu'aires & Q-sorts	
		Re-administered standardized civics test to outgoing students; compared scores	
		Conducted overall evaluation & wrote report	Final Report
Decision making and planning	*Planned work calendar for year	*Conducted continual planning, revision of plan	
	*Helped plan training seminar	Wrote up plans in regular progress reports	
		#Drew up tentative prospectus for following year	#Prospectus

NOTE.--Chronological order is not consistently followed, as some activities overlapped or were temporarily superseded by others.

* Guided, introduced, or assisted by Laboratory staff.

\# Following termination of the Pilot Test in June 1969.

it would relate to improving their classroom plans.

The needs assessment instrument used with outgoing seniors the previous June had measured the students' perceptions of the school's performance in meeting student needs, both affective and cognitive, and the degree to which the student thought the school should be meeting these needs. The revised 50-item questionnaire (prepared during the Seminar) was given to incoming American Government students at the beginning of the operational phase. Four more needs assessment instruments were developed by the Team and administered: an essay question (for students), "What do you think are the most important needs of young people in our society today?"; an 11-item instrument (for students, parents, and educators) for ranking; a 30-item questionnaire (for parents) made up of items judged most and least important by the students on the 50-item questionnnaire, plus several items representing more traditional American Government course content; and finally, a revised 50-item questionnaire, administered as a posttest at the end of the school year.[10]

Analysis with each instrument showed a bias toward the importance of affective behavioral needs over cognitive needs, by students, parents, and educators. Interpreting these results, the teachers felt that the affective domain was considerably more pertinent in the eyes of both students and adults than was the traditional or cognitive domain. It is interesting to compare this conclusion with that of the school's Instruction Committee, page 8.

The Team held a three-day session during the Christmas vacation to work through the detailed analysis and outline the needs assessment report. Problems arose because of lack of exact records of what had been done. The necessity for records had been pointed out to the Team frequently; now the need became evident. At this time also the teachers showed beginning sensitivity to correlations and when they were appropriate, and to some of the problem areas related to research methodology.

3. Problem Formulation
and
4. Examination of Alternative Solutions

These two steps were presented as a combined process. The planned sequence involved restatement of the identified needs as problems which could be solved through the R&D process, and examination of alternative solutions. Additionally, formulation of a systematic plan for evaluation of the possible solutions was part of this planned sequence.

The whole problem formulation matter was one of great concern, hesitation, resistance, and incomprehension to the Team from early October until late February when actual writing began. When the schedule called for beginning this phase (in October) the Needs Assessment was still the center of attention and the findings were inconclusive. The Laboratory Consultant introduced techniques of problem formulation and of refining objectives into precise performance objectives; but in the meantime the

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[10] See Second Report to the R&D Council, Part I (Needs Assessment Report) for the instruments and an account of analytical methods used and results obtained. In R&I Unit, 1/19/69.

teachers' responsibilities for their classroom instruction took precedence over their role in R&D utilization. Their own objective was improving their classroom instruction, while the Laboratory wanted to determine whether the IPT arrangement would be a viable way to increase utilization of research results in the classroom. (This inconsistency in aims was to be a crucial factor in the outcomes of the pilot study.) Caught between the conflicting objectives, pressed for time, needing materials for their ongoing classroom program, and immersed in the idea of building curriculum on the newly identified needs, the Team started developing its own teaching innovation.

The problem formulation guide worked out by the Consultant was in technical language (from the teachers' point of view), and appeared extremely long and time consuming.

Much discussion took place regarding various aspects of problem formulation in relation to what the teachers were doing in their classes. A decision on how and when to begin the task was chronically delayed for several months. Yet a moment did arrive when the problems in the teachers' minds seemed to have disappeared and planning could go forward.

Since the teachers had begun to implement possible solutions to student needs in their instructional programs without formulating a research problem or specifying performance objectives in advance, they considered these curricula to be independent of their research activities. In February one of the teachers explained to the others that, although their class program was a result of the needs assessment, they had started to provide solutions without writing down what they were doing and therefore it was not "scientific." Soon thereafter another teacher commented that he had no performance objectives for a particular course, therefore no measure, and added, "I'm not saying the Lab is wrong, but I have to get my thing going."

Nonetheless, the record of the February 6 meeting shows that "During the course of today's meeting the teachers seemed to become convinced of the value of specifying (performance) objectives in order to evaluate their instruction, but questioned their ability to successfully write objectives for students' needs in the affective area." Before the end of the school year the Team Leader and two others became so convinced of the importance of behavioral objectives that the Leader was attempting to have the writing of objectives made mandatory throughout the school, and to have schedules reorganized to allow teachers at least one hour each week for this task.

5. Search, Appraisal, and Selection, of an R&D Product for Testing

In mid-January the Consultant reported to district personnel in a joint meeting that the pilot test was about to proceed to the next step and that the teachers wanted to focus on the three affective needs given highest priority by both teachers and students (the fourth highest priority was cognitive). The problem was that while well tested and evaluated cognitive materials were available, extensive Laboratory search had revealed no materials related to these top priority affective needs. The IPT would have to develop new instructional materials itself, precluding adequate pretesting and evaluation for effectiveness. However, as the Laboratory Consultant indicated and as the administrators and later the District

R&D Council agreed, the teachers' interest in the affective domain was much greater than in the cognitive, and their morale and enthusiasm might be dimmed or even destroyed by insistence on taking another direction.

The four top priorities shown by the needs assessment were concerned with the affective aspects of a sense of self-worth, ability to communicate, and understanding reasons for human behavior; and with the cognitive skill of being well informed on current issues. The Team examined the three highest, affective needs for (a) relevance to the American Government course, (b) reasonableness, and (c) teachability. Next they wro goals, broad objectives and specific (performance) objectives for the course. The problem became: "To determine whether the student need to understand reasons for human behavior can be met by studying some reasons for political behavior; and to determine which of two teaching methods better attains the objectives of the Team."

Comparative Politics was chosen as the subject matter for experimentation with innovative teaching methods. The Team developed specific objectives for a one-week introductory series and a four-week comparative politics series. Pre- and posttests were prepared for use in evaluating the two teaching methods. The pretest was given to the students at this time, the posttest in June.[11]

One "new social studies" program was reviewed, the Sociological Resources for the Social Studies (SSRS) "Episodes in Social Inquiry" series, developed at the University of Michigan. Team members also read about other new American Government programs in an early version of the American Government Information Unit developed by the Far West Laboratory. Fully documented research reports were not examined, and no fully developed R&D products were found that met the Team's objectives. The District office had an ERIC document collection from which the Consultant retrieved samples, but the teachers found them too detailed to be of value in the time at their disposal. The Far West Laboratory also had under development mini-courses based on micro-teaching, which were short units of study for teaching classroom skills to teachers. From these the Team developed its own teaching innovation, the micro-course. The Team saw it as adaptable to the high-priority student needs and the diversity of student interests, therefore satisfying the objective of providing relevant instruction.

The micro-course provides students the opportunity to choose individually the aspect of a topic which interests them most. The teachers select four or five topics to be taught simultaneously during all periods when their course is offered. Each student attends the section whose topic most interests him. Each micro-course lasts one or two weeks and is repeated, allowing each student to attend two sections. Much flexibility is allowed the teachers, as each teacher can experiment with different methods for the

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[11] For detailed descriptions, goals, objectives, instruments, and results, see Second Report to the R&D Council, Part II and Third Report (Problem Formulation Reports) in R&I Unit, 1/12 and 3/18, 1969.

same topic, different topics with the same method, or any combination of strategies.[12]

6. Demonstration, Testing, and Evaluation of the Chosen Solution

The micro-course class structure was tried in all American Government classes in December, adopted, and further developed during the spring semester. This was not, of course, actual testing and evaluation of a developed R&D product, but innovation by the team itself; to that extent this knowledge-utilization skill was bypassed. The Team did make use of another external source in developing its new Spring curriculum--the Simulated Congress. Other teaching techniques used in the presentations included role-playing, guest speakers, independent study, and debate. Student learning was evaluated through both written and oral reports. In January the teachers offered micro-courses in The Office of the Presidency, The Power of Congress, Property versus Human Rights, and Conservation. In the spring semester all five teachers taught micro-courses on comparative politics (a fifth room had not been available in the fall semester, so only four had been taught), each teacher differing from the others in construction of the course and also teaching each of his own classes differently in the hope of comparing methods. (Unfortunately, plans were not rigorously adhered to, so that comparisons could not be made.) In May, a final series of micro-courses took up Italy, SE Asia, and Latin America.

An additional teaching method was tried during the second semester, also in comparative politics. This was a modification of the so-called enquiry approach of Mindella Schultz (1967) and was used to examine United States and U.S.S.R. political behavior. Again, comparative evaluation of the enquiry and micro-course methods was found to be impracticable for several reasons, chief of which was non-adherence to plans with the rigor an evaluation requires (R&I Unit, 8/7/69).

7. Decision Making and Planning

Documentation of activities and classroom results was suggested several times as a basis for evaluating innovations. Some record-keeping did start in November but for another purpose. Complete and accurate documentation of how each Team member used the innovations and how his students reacted was a continuing deficiency of the pilot study. Nevertheless, a major breakthrough was achieved in March, in the eyes of Laboratory staff, when the teachers spontaneously began talking about meeting before the beginning of the next school year to do joint planning. (This occurred after it was known that the IPT would not continue.)

At the end of the school year, after termination of the pilot test, the Team incorporated its overall evaluation of the IPT experience into its final report. The Team also drew up a tentative prospectus for the American Government Course for the following school year, which it incorporated in the final report (R&I Unit, 8/7/69). Several practices from the IPT experience were instituted throughout the Social Studies Department (of which the Team Leader was chairman), such as increased use

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[12] Ibid.

of student performance objectives, improved evaluation on a pre-posttest basis, and joint planning time for all teachers of the same course.

Other Research Skills

The Instructional Planning Team was introduced to other skills from time to time, such as PERT for use in making a calendar of work, and program budgeting for accounting for project costs. Some of the teachers also assisted the student newspaper in polling student opinions regarding Social Studies classes. Several media were used for diffusing information about the pilot test and the Team's activities to other educators, parents, and the community. Several team members attended outside workshops on simulation techniques, writing performance objectives, and teaching public issues.

Long-range evaluation of the IPT arrangement and its value for increasing R&D utilization, was built into the pilot study in the U.S.O.E. proposal. The end-of-the-year report and what should go into it was discussed in early fall and frequently thereafter. District staff pointed out in November that evaluation of the process was critical and adequate records of team activities would be necessary. A weekly log was agreed upon, each member recording what he was doing, the time consumed, good points, weak points, and possible solutions to weak points. (The logs were not completely useful, however, as they were not kept with equal faithfulness or detail.)

Toward the end of the school year the Laboratory did a rather comprehensive evaluation of the Team through various instruments. The teachers showed a great deal of unexpected interest in this process and were exceptionally cooperative about the questionnaires. Comments in meetings and to Laboratory staff showed that the members had come to understand the value of evaluation, as they had not up to a short time before. One teacher remarked that while learning evaluation had not been one of their major goals at the beginning, it certainly was one of the outcomes; they had learned much more about these matters than they had anticipated.

III. RESULTS

The Instructional Planning Team pilot study encountered some of its problems from the start. Records of the first two meetings show that certain problems were ascertained to exist, which never were resolved. Others arose as the undertaking progressed. Some of the questions involved are complex, and many remain unanswered. It is possible, however, to draw some conclusions about the arrangement and to make some recommendations regarding any future attempts to improve upon this process for developing R&D utilization skills and fostering rather sophisticated experimentation within the school environment.

This chapter will attempt to present some of the problems and weaknesses, the main strengths, and the unanswered questions concerning the arrangement.

Problems and Weaknesses of the IPT Arrangement

The problems encountered in the project group themselves into six inter-related sets. They concern goals, time factors, supporting materials, the role of the teachers, the role of the Laboratory, and the role of the District.

Goals

Hindsight shows the project as a whole to have been overambitious, even "grandiose," given teachers who were neither trained in research utilization nor accustomed to working as a team. The lack of well developed support materials in either teacher training or the pertinent classroom curriculum compounded the problems.

As experience has shown with the Wisconsin R&I Unit model (Wardrop, Cook, Quilling, Klausmeier, Espeseth, & Grout, 1967), at least one to two years are required for a group of teachers to develop the skills, attitudes, organizational efficiency, and commitment needed to work well as a unit. Then R&D activities can be introduced with hope of successfully blending them with classroom instruction. (The Laboratory Consultant of this project now believes that two to three years are actually needed to reach such a point.) As early as January the Consultant and Recorder wrote in a report to Laboratory staff: "It would probably be unrealistic to expect them to accomplish more than the isolation of a problem for study, the search for relevant information, and development of alternative curricular innovations based on their search, before school ends in June." Even this revised expectation turned out to be unrealistic, as has been seen.

The expectation of teaching the more sophisticated research utilization skills to teachers who are under the constant pressures of the classroom would appear unrealistic even after a year or more of such team functioning, and the learning and use of the simplest skills. That the teachers themselves realized they might be "overreaching" is shown by

their ranking of this notion as the second most important weakness of the IPT arrangement on a questionnaire near the end of the project (Table 2). Other respondents, however-- social studies teachers, school personnel, the R&D Council, and district staff-- rated the notion of "overreaching" as the least important weakness. In the case of the non-Team teachers, this rating may have resulted from their own unfamiliarity with the R&D process and with the details of what the IPT was attempting. Other district staff may not have realized the lack of research knowledge and skill with which the Team had started.

Closely related to the problem of major goals is that of the divergent aims and expectations of the persons involved in the program, that is, the teachers, Laboratory staff, and District personnel. The teachers expected that participation in the experiment would improve their classroom teaching, but the value of the R&D skills they might acquire was not evident to them at the beginning--a fact which led naturally to some resistance as the skills were introduced. The teachers' aims, though professional, were not those of either the Laboratory or the District. The latter was most interested in finding a way to develop and field test new curricula (Fa'ge, 1968). The Laboratory's goal was to find a way to increase R&D utilization in order to improve instruction in a school.

The divergence of goals between Team and Laboratory is well illustrated by the Team's failure to select and test an already developed teaching innovation. Developing its own innovation, an excellent experience in itself and highly useful and interesting to teachers and students, was not related to the Laboratory's goals for this particular project.

"Members' uncertainty about objectives of the project" was rated one of the most important weaknesses of the arrangement by the Team; here non-Team personnel were in agreement (Table 2).

Time Factors

As mentioned above, the time needed for a truly functioning team to develop is long. In the opinion of Dr. David Carlisle, research director of the Amador Valley Joint Union High School District and the Pleasanton Joint Elementary District (Laboratory Consultant to the IPT during the pilot study)the Instructional Planning Team arrangement cannot succeed nearly so soon as this project attempted. The problem, and the need for change, must be sensed by the teachers themselves; the arrangement must be recognizable to the faculty as a viable solution to their problem; then it can be suggested, and only if accepted wholeheartedly by the teachers can it even then succeed.[13] The training in research methodology, even if quite unsophisticated, takes a great deal of time by itself. The study previously cited (Wardrop, et al, 1967) and others have shown that it often takes more than a year for teachers to acquire the skills to function automatically within an I&R Unit. As early as mid-November the Consultant commented in the record of a Team meeting that consideration should be given to extending the pilot study to two years instead of one.

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[13] Statements made in telephone conversation with the author, 10/14/70.

Table 2

Strengths and Weaknesses of Instructional Planning Team Arrangement as seen By Team Members and by Other Personnel

	IPT Personnel (N=5)	Non-Team District & School Personnel (N=16)
Most Important Strengths		
Opportunity to compare philosophies and methods	2.8	2.3
Small, capable team	2.8	2.5
Released time	2.6	2.8
Student and parent involvement	2.6	2.6
Classroom implementation of planning	2.4	2.8
In-Service training in R&D processes, & subsequent use	2.0	2.6
Time for planning	2.0	2.9
Most Important Weaknesses		
Difficulty of combining teacher and research roles	2.8	1.6
Unit may be overreaching	2.4	1.4
Uncertainty about aims	2.3	1.9
Overemphasis on daily problems	2.3	1.9
Lack of time to perform tasks	2.2	2.0
Members' uncertainty about objectives	2.0	1.9
Lack of time to learn Research and Development	2.0	2.0
Members' low consensus on instructional goals	1.8	1.9
Overdemands of district problems on Unit's time	1.4	1.9

Note.--A combined list composed of the five most important strengths and the five most important weaknesses identified by each group. Responses were made on a four point scale ranging from 0 (no importance) to 3 (great importance). Numbers shown are average ratings for each group. Underlined numbers designate the five most important strengths and weaknesses for the group. Numbers not so marked are given for comparison with those of the other group.

It is probable that the Team's inability to follow its planned schedule was due simply to the unrealism of the schedule itself. Laboratory and District staff who helped develop a schedule at the training seminar had themselves an overdrawn expectation of the speed with which the Team would grasp and accomplish the tasks; and it is certain that the Team members had very little understanding of what they were embarking upon. Not realizing that the project would prove quite complex and exacting for the limited time to which they were committed, the teachers may willingly have concurred with what seemed to be expected of them.

The personal time commitment of the teachers was extremely important. As mentioned in Chapter II, it became apparent immediately that the scheduled one hour per day of released time was not adequate for performing the planned tasks. When the Team's request for more time could not be met, the teachers nevertheless regularly (almost daily) devoted after-school time without financial compensation. It has been suggested that the very existence of any released time for planning increased their expectations and motivation so that they tried to do still more. Members of the team made statements to this effect on several occasions (Torrey, 1969, P. 21). On the positive side, the teachers found the year exciting and challenging, even though physically taxing.

One of the five most important weaknesses seen by the Team members (Table 2) was "lack of time to perform the tasks," which other staff members rated as one of the two most important weaknesses along with "lack of time to learn R&D skills." (At the same time, school and district personnel rated "time for planning" as the most important strength, while IPT members rated it one of the two least important strengths.)

Supporting Materials

A major problem throughout the project was the fact that supporting materials needed for various phases of the Team's work were either nonexistent or, if available at all, inappropriate or not well developed. The Laboratory was unable, despite extensive search procedures, to provide effective and appropriate training materials for the R&D tasks. This had an unfortunate secondary effect: It apparently developed in the teachers a misconception of the difficulty of some of the simple tasks, so that they delayed them and became ever farther behind in their work schedule.

The commentary with the record of a mid-November meeting notes that a training package in needs assessment should include (a) a detailed description of the entire process with examples, before the teachers start the actual analysis; (b) questions to ensure that the teachers consider alternatives in type of population that should be responding to the instruments; (c) instruction in use of various techniques and how to rank one technique against the other. In addition, the Consultant stated the materials should be non-statistical. The team was having difficulty grasping elementary statistical concepts; a t test or standard deviation would be beyond it for some time to come. As mentioned elsewhere it is possible that such skills were presented in too technical language for novices. Still, the need for the supporting materials was real.

The Laboratory itself had available, or under development, products in the field of American Government which it had hoped the Team might select for testing. These products, however, were not in the interest areas of the teachers. Their concern was primarily with the affective domain rather than the cognitive, so that they did not see the materials as relevant.[14] Conversely, when materials pertaining to particular R&D skills were collected by the Consultant, the teachers seldom found time to read them. Records of the joint meetings show that members made such statements as "We need material in a digested form or as an abstract to save time."

The Team Leader had taught American History rather than Government until the school year of the pilot study, so new curricular materials in Government were not well known to him. One of the team teachers was appointed by the District to set up a Resource Center, but for reasons of both time and space, little was done.

The Teachers' Role

The next cluster of problems might well be called "The Human Factor," although such a label might imply that the problems connected with the Laboratory and District roles were purely technical. (As will be seen, this was not the case.) The role(s) of the Team's teachers, their attitudes and interests made up a complex of interrelated problems.

One of these problems the teachers themselves recognized: the daily conversion required of them from the role of classroom teacher with all its accompanying responsibilities and demands, to the role of researcher; and vice versa. There existed a daily need to disengage themselves psychologically from students and student needs, and from the many instructional tasks which must be carried on regardless of the progress of the Instructional Planning Team. Frequently students' needs and demands interrupted even the after-school planning activities. The teachers rated this conversion problem the "most important weakness" of the IPT arrangement (Table 2, p. 25).

Certain role changes were a natural outcome of trying to work as a team and to combine R&D with the usual instructional tasks. The fact that the demands of daily instruction were usually the more compelling is an apparent reversal of the well publicized situation in higher education. It has been hypothesized that this constant role conversion of teachers may have a debilitating effect on either the instructional or the research program, or both.

Another major problem was the "program drift" which should have been expected--the tendency of the teachers to concentrate primarily on activities relevant to the needs they perceived. As Figure 3 (p. 15) has shown, far more time than that projected in the planned schedule was devoted to the phase of greatest interest to them (the needs assessment study),

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[14] Much later in the year the teachers reviewed these materials (being developed for the Laboratory's American Government Information Unit) and did find some of them to be relevant.

leaving too little time for other phases of the project; and certain phases of little or no interest to them were neglected almost entirely. The same was true of changes in the instructional program. The original plan had not called for new input into classroom instruction until the training sequence reached the point of testing an innovation; then only one problem area of the American Government course would be attacked. In their eagerness to begin improving their instruction, once the top needs were identified the Team began a continual change process which effectively revised the entire course. There was no wait to complete the needs assessment study, formulate a research problem, or search for alternatives.

The common human tendency to resist suggestions from advisors and later to adopt them or very similar ones as their own, was not missing from this project. The Laboratory consultants learned to expect this "incubation process," and on occasion to discuss an idea with a Team member who, after appropriate incubation, would introduce it to the Team.

Lack of consistent, cohesive functioning constituted another problem which prevented anticipated progress. Only three of the five Team members were consistently active, effective participants. Some members and observers felt that the five teachers were not all thoroughly committed to the idea of the IPT; several members mentioned in late fall that full commitment to the approach should be a prerequisite to being a Team member. An unconcerned attitude by one or two members, coupled with the newness of the approach, may have put undue strain on all involved. A Team member might be an extremely creative teacher yet be unmethodical and forgetful about his paperwork, inattentive at meetings, or unconcerned about following agreed-upon plans. As late as mid-February one member was "still not considered with the group in his thinking or understanding of what is involved . . . still does not want to test out his ideas scientifically, although ready to admit the arrangement is better than normal classroom procedure." In the Team's final report to the R&D Council (8/7/69, P. 2) the statement was made, "This experience taught us that if a team approach is to be used, each member must participate in the planning and be willing to follow the plan."

The only period during which all members really functioned as part of the Team was the phase that most interested them all (needs assessment). Since not all of the five were volunteers, these problems perhaps should have been expected. The District's proposal to the U. S. Office of Education had specified an intention to select members on a purely voluntary basis; this intent apparently did not prove practicable.

The making of long-range plans, and their importance to the improvement of teaching, did not become a matter of concern to any of the teachers except the Team leader during the course of the project.[15] This lack of interest may have been partly due to the pressures and exigencies of the other activities. The result was very little implementation planning on

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[15] See Torrey, 1969, P. 36 for a discussion of this deficiency. The Team Leader, however, became so committed to the concept of long-range planning that he arranged for all Social Studies teachers to have the same conference periods.

a long-range basis. It should be noted, however, that the Team did participate in planning activities throughout the year as a part of their other activities and even of report writing; and that they drew up a tentative prospectus for the following year, based on their experience and innovations, without the help of a consultant after the termination of the project.

The reluctance of the teachers to disseminate any information about their interim findings until these had been tested and refined resulted in very little diffusion of accurate information about the Team and its work in the school or the district. The Team appeared to feel uncertain and insecure about what it was doing. General observation by other staff and word-of-mouth publicity engendered some information and speculation. The record shows that as early as mid-December the instructional aide of the Social Studies Department told the Laboratory Consultant there was now a "big change of attitude in the school" about the IPT. Other teachers were beginning to ask questions regarding whether they should go in that direction, and many people wanted to learn more about the Team and its operations. When the subject of better dissemination was brought up by the Consultant in late February, the Team Leader exclaimed that "Interest of faculty members has generated departmental meetings, in fact more than we have had in years!"

The Team may have hesitated about diffusion simply from a human desire to appear "right" in the eyes of colleagues when it did make its findings public. It is also clear from the records of Team meetings with the Consultant that the teachers intensely disliked the writing of reports; they may have hesitated to go into diffusion for fear of becoming involved in even more formal writing. The second purpose of the District in establishing the IPT, stated in its U.S.O.E. proposal, was to test the effectiveness of such an arrangement as a means of diffusing R&D information and techniques throughout the District. The Team was well aware of its responsibilities to the District and the R&D Council, but found it hard to keep its reports on schedule, as it did its R&D activities. Hindsight suggests that diffusion may have been a chore for which good reasons to procrastinate could always be found. Additionally, some diffidence may have resulted from a feeling of lack of support from District staff, who seldom attended Team meetings.

A minor but time-consuming toll in efficiency resulted from a misconception of their role in the research activities on the part of the teachers. The district provided a part-time instructional aide (three-four hours a week) to do the detailed and routine statistical work, but the teachers felt at first that they should perform all the work themselves. It was mid-November before they began to sense that they could and should outline the analysis for the clerk and let her do most of the detail. Analysis of the needs assessment instruments lagged and the Consultant suggested several times that the Team hire an additional clerk with the money allocated by the District for this purpose, but the Team showed reluctance to do so. The aide provided was herself a college graduate and held a teaching credential, so the teachers' reluctance probably was not based on mistrust of her competence or integrity. It is more likely that they did not yet understand the processes well enough to feel confidence in explaining them or answering questions about them. Unconsciously, the teachers may also

have felt that actually working on the details themselves would clarify the processes and concepts in their own minds. Or, very humanly, they may have tended to grasp at concrete chores as a means of delaying the more difficult decisions and tasks facing them.

One final problem might be mentioned here--the necessity, unrealized by the teachers until mid-Spring, to adhere to planned teaching strategies if an innovation is to be evaluated or comparisons made between two methods.

The Laboratory's Role

As seen by the Laboratory, one of the major problems of the project was its dependence on the Consultant's time, interest, help, and guidance. His position was equivocal. He was charged with directing the research utilization activities, but was powerless to enforce the time schedule or to prevent program drift (discussed under Teachers' Role). The teachers clearly preferred interraction with a consultant to any other method of training;[16] nevertheless his position was more that of a discussant and guide than of a trainer as such. Additionally, the time required for such a team to attain the experience and skill for independent continuance was misjudged by both the Laboratory and the District.

As seen by the District at the conclusion of the project (Torrey, 1969), insufficient development of the IPT concept prior to the pilot test was one of the major weaknesses having to do with the Laboratory's role. At the same time, the highest overall "satisfaction" rating in 26 areas by school and district staff went to "services, advice, and role provided by Laboratory staff."[17]

Inadequacies in planning, orientation, and training activities showed up for the duration of the project. To take advantage of all available time, the second phase of R&D activities (needs assessment) was begun in the spring prior to the start of the pilot test, months before the start of training sessions and also prior to the initial phase (analysis of the ongoing program). The needs assessment phase thus was put under severe handicaps, as the selection and administering of an instrument took place without understanding either the rationale for, or the process of, needs analysis.

When training sessions were held in August they were at once too general and too technical for the teachers. A simple introduction to statistical techniques and to methods of report planning was not included in the orientation and training. When Team members later tried to make detailed plans for the conduct, analysis and reporting of the needs assessment and problem formulation tasks, they experienced difficulties which greatly slowed their progress. A certain rigidity of approach to the

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[16] See Appendixes C and D for the teachers' ratings of the effectiveness of 14 training methods.

[17] See Appendix E regarding staff's satisfaction with IPT operations.

training sometimes showed up despite the Laboratory intention to keep the training functional. In late February the Consultant became aware that trying to enforce a "logical, rational approach" to problem formulation was not working, and made a deliberate attempt at the next meeting "to be non-directive and try to elicit information concerning the problems (they) were facing." At that meeting, for the first time, Team members took the lead in discussing problems of concern to the Team; they showed a significant increase in understanding of the concept of problem formulation, and a heretofore unknown interest in long-term planning.

Communication between Laboratory and Team was greatly hindered by the use of technical terminology and the jargon of the world of research. The records of their meetings show that the teachers frequently did not understand what was presented to them, until they elicited better clarification (sometimes weeks or months later) by asking questions that forced the language into their own terms. When asked to indicate the extent of their agreement with a list of statements about educational R&D practices, the Team members agreed most strongly that statistical techniques in educational research are oversophisticated and that teachers do not use R&D information because it is not reported in understandable form (FWLERD, CP, 1969c, Table R).

All the weaknesses and problems having to do with the Laboratory's function in the project remain, however, subsidiary to the overriding problem of the entire study--the overambitious goals which were built into the original plan.

The District's Role

A greater appearance of District support for, and interest in, the Team and its activities appears to have been at least an unconscious need on the part of the teachers. The Team's diffidence about diffusing information has been mentioned in this connection. Another case in point is the teachers' expressed need for more time together, a need which could not be met because of scheduling necessities. Since many teachers are unaware of many of the facets of scheduling subjects-pupils-teachers-classrooms, this lack of apparent cooperation may have appeared to them as lack of support.

Administrators did express their viewpoints during orientation regarding the selection of R&D problems. At the monthly R&D Council meetings, administrators provided constructive feedback on the Team's required, written reports, which the Minutes show usually generated a good deal of spontaneous discussion. But little, if any, casual discussion or dropping-in took place. Most administrators had contact with the Team as such only rarely, when called upon to consult on specific tasks. The record shows that in late January the Team commented that the administrators were "too touchy" about being invited to meetings, and should realize they had an open invitation. However, the members on some occasions took the more defeatist attitude that specific district personnel were too busy with other matters to give them much time even if asked.

An unrealistic time stipulation for preparation of Team reports to the District R&D Council created a problem at first--easily solved by getting

permission from the Council to postpone reports. Certainly the District was no less realistic than the Laboratory in its expectations for the Team.

At the school level, the problems were mechanical or physical--lack of regular space where materials could be left or a resource center established; lack of continuous time together (as would have been possible by having released time at the last period of the day); and lack of time to get away to the Library (R&D Council, 1/22/69). The school was able to provide certain administrative resources, however, such as programming, rescheduling and regrouping of students to accommodate changes in the organizational pattern. Perhaps the chief function of the school was interpretation to other faculty, parents, and community groups by the principal and counselors.[18]

District and school-wide problems also reduced the effectiveness of the team's functioning, particularly the unification battle which was taking much of the time and energy resource of many teachers including those in the Team. A dress-code feud, an attempted split-off by parts of the district, integration problems, school funding problems resulting from a recent bond-issue failure, and the resignation of the superintendent--all split the loyalty of the teachers and made objectivity and concentration difficult. While these were all fairly typical school district problems which might affect operations anywhere, they did perhaps occur with unusual concentration in this school year in this district. The resultant loss of a typical environment may be construed as having adversely affected the pilot test.

The financial costs of operating the project constituted one of the three major weaknesses from the District's viewpoint. As Table 1 has shown, a district wishing to initiate an Instructional Planning Team on the basis of one hour per day released time, and lacking a federal grant or other outside source of funds, needs to be prepared to spend at least $19,000 per team for the first year of operation (based on 1969 cost levels). Other expenses being comparable, however, district expense would then decrease to approximately $15,500 per year, as the preoperational phase would not be repeated. Yet it seems likely that other training seminars or workshops would be desirable from time to time, so that this figure may be very conservative. If teachers were to receive either extra released time or compensation for after-school time, the cost would of course be significantly greater. (The Wisconsin R&D Center has established some I&R Units at lower costs through the use of differentiated staffing plans that include less expensive teacher aide positions.)

Evidence does indicate that, in time, training programs and well defined personnel roles and procedures could be developed and disseminated to other sites. To meet this expectation a district would need to devise strategies for funding entirely with its own funds.

An approach to improving instruction which both teachers and district personnel suggested at various times was a combination of the IPT and Summer Workshop concepts. In its Third Report to the R&D Council (3/18/69, P.9) the Team stated that in its opinion the IPT approach was not superior to

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[18] See letter from Donald Kreps, Principal of Redwood High School, to Dr. David Carlisle, 2/25/69, in FWLERD, CP, 1969b.

the workshop approach; however, "some aspects of the (IPT) approach can be adapted to the workshop and in-service approaches. . . . The time spent doing research and writing reports is out of proportion to the time spent planning for instruction." (Emphasis added.) The Team's aversion to writing reports (required by the District R&D Council as a condition of its grant) is shown again in the same document: "However, we have learned many useful things--some research techniques and to question what should be done, why, how, and was it done? We think it is possible to teach teachers the things we have learned without the agony of formal reports, through the workshop approach with in-service follow-up." (Emphasis added.) Unfortunately, the Council requirement of reports appears to have given the Team the impression that this is a built-in activity of the Instructional Planning Team approach to improving instruction.

Major Strengths of the Arrangement

From the point of view of the District, the main advantages of the Instructional Planning Team were:

1. It provided a systematic approach to curriculum change, since the teachers could field test innovations prior to their adoption by the school.

2. The products were clearly above average. Six administrators and educational consultants rated the four IPT products (the Preliminary Planning Report, the Needs Assessment Report, the Problem Formulation Report, and a description of the innovative micro-course structure) on a five-point scale, and compared them with typical products from R&D projects by other teachers and staff. As Table 3 shows, the Team products were rated superior to those of other teachers on all the criteria. Compared to products of all other personnel combined, Team products were rated most superior in interest level and in usefulness for instructional planning and decisionmaking.

3. The teachers did acquire some R&D utilization skills. Evidences of such skill acquisition were elicited through a simulation exercise (Torrey, 1969, Pp. 30-31, & Whitney, May 1969).

4. The teachers' level of interest, knowledge, and attitudes toward research and development changed. Pre-and post-project questionnaires showing such changes were completed by the Team teachers and by other Social Studies teachers at the high school and American Government teachers in other district schools. In general, the Team's mean interest level in new educational methods and technology increased, and was higher than that of either of the other groups. The Team expressed continued interest in team teaching and new interests in an interdisciplinary approach, simulation techniques, and inquiry/discovery method. Its relative interest in defining and assessing educational objectives dropped somewhat, as did interest in means for increasing cognitive development. New interests of the Team in special topics included interpersonal relations, integration of innovations, and motivation of alienated youth. Interestingly, the topic for which the Team expressed least interest at the end of the year was research structures

Table 3

IPT Products Compared to Products of Other Personnel

Criteria	Compared with products of: Other Teachers	District Personnel	County Office Personnel	All Groups
1. Clarity of rationale and objectives	4.1	3.6	3.6	3.8
2. Usefulness for:				
a. formulating instructional plans	4.2	3.5	3.6	3.9
b. deciding on instructional alternatives	4.4	3.5	3.7	3.9
c. implementing instructional change in the classroom	4.2	3.5	3.6	3.7
3. Interest level of material for yourself	4.4	4.0	4.3	4.2
4. Interest level for other school personnel	4.1	3.9	4.0	4.0
5. Organization and format	3.9	2.8	3.3	3.3
6. Depth of coverage	4.3	3.4	3.5	3.7
7. Adequacy of technical aspects:				
a. methods by which data were collected	4.2	3.3	3.1	3.5
b. methods by which data were analyzed	4.2	3.2	3.1	3.5
c. validity of results	4.1	3.1	2.9	3.4
d. adequacy of planning undertaken	4.2	3.3	3.4	3.6
8. IP Team teachers' overall grasp of the process which culminated in this project	4.2	3.5	3.2	3.7
Overall Rating	4.2	3.5	3.5	3.7

Note.--The products rated were the Preliminary Planning Report, the Needs Assessment Study, the Problem Formulation Study, and the Micro-course Report. An amplifying report on the Problem Formulation Study combined with a final report of the project was not completed until August so was not rated. Respondents were administrators and educational consultants. Responses were made on a five point scale ranging from 5 (clearly superior) to 1 (clearly inferior).

for school districts.[19] Yet in other instruments the Team rated higher than either of the other groups of teachers in both its accurate knowledge of, and enthusiasm for, educational research and development.

5. Definite instructional changes took place during the project.[20]

6. Some beneficial effects of the training and of resulting changed attitudes toward research utilization and planning continued beyond the school year (Torrey, 1969, P.32).

As Table 2 has shown (P. 25), to the teachers involved in the study the major strengths differ markedly from those perceived by other staff. (It is important to note that the lowest rating by the Team went to "In-service training in R&D processes and subsequent use of these processes.") Three other "strengths" of the arrangement were volunteered by Team members during meetings with the R&D Council:

1. Use of a professional (the Laboratory Consultant) for help in solving research problems, selecting appropriate statistical treatments, etc.

2. More impact on administration, if change is needed, by teachers as a group than by teachers as individuals.

3. More follow-through on commitments by a group than by individuals.

The strengths of the Instructional Planning Team in the eyes of other district staff were more important than its weaknesses, as shown in Table 4. It is interesting to note that the overwhelming majority of non-IPT respondents believed the strengths of the arrangement outweighed the weaknesses, while the team members themselves were divided between "equal importance" and "weaknesses more important."

Certain definite strengths in the Instructional Planning Team arrangement also have emerged in the Laboratory's thinking:

1. The arrangement did stimulatate and facilitate innovation in the classroom.

2. It did stimulate teachers to investigate alternatives, though to a much lesser extent than anticipated.

3. It stimulated assessment and evaluation by teachers.

4. It provided teachers with immediate, rather than delayed, feedback on the blending of R&D and instructional functions.

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[19] See Appendix F for a tabulation of these interests and those of the other teachers.

[20] For a discussion by the teachers, see Pp. 25-29 of Second Report to R&D Council in FWLERD, CP, 1969b.

Table 4

Comparative Importance of IPT Strengths and Weaknesses as Seen by Team and Non-Team Personnel (frequency of response)

Response Alternative	IPT Personnel	Other District Personnel
The strengths of the IPTeam outweigh its weaknesses.	0	11
The weaknesses of the IPTeam outweigh its strengths.	2	0
The strengths and weaknesses are of equal importance.	2	1
No response.	1	4
Total	5	16

Unanswered Questions

A number of questions concerning the Inatructional Planning Team concept and operations remain unanswered. These include the following:

1. Is this sequence of research utilization tasks a workable and rational one from the teachers' point of view, given a more realistic approach to the time-and-support aspects of the arrangement?

2. With what degree of sophistication should teachers perform statistical analyses of their surveys and projects? Or should they--need they--perform them at all?

3. How can resource materials be made available to the teachers in abstracted or pre-digested form, so they will be read, but still be worthwhile?

4. How much time should be anticipated between the initiation of the project and the release of the Team to carry on by itself without the help of professional consultants?

5. What released time would be adequate for the teachers to perform the research utilization tasks and planning activities?

6. What other support by a district and a school would be of the greatest value to such a team?

7. What would be the best "mix" between instructional and research activities of the teachers?

8. How can more advantageous use of the Consultant's time and expertise be built into the model?

9. What are the actual financial costs, to a school district and to a Laboratory or other sponsoring agent?

10. What are the cost/benefits of the arrangement?

11. Would a completely different model be better than a further revision of this one?

12. And, perhaps basic to all other questions, the one that was implied at an R&D Council meeting by the Unit Leader: "The real test of the (IPT) approach would be whether or not instruction could be significantly improved on the basis of the type of research which an (Instructional Planning Team) has the capacity to perform."

ADDENDUM TO CHAPTER III, RESULTS

More than two years after the completion of the project, several Team members were interviewed briefly. The five IPT teachers are again together for the 1971-72 school year. One of them no longer teaches American Government. Two of the other four are working as a team, as of this writing. Later in the year, all four hope to work together in planning their classes. Although they do not yet know how they will organize or which IPT ideas they will incorporate, they do know that they will not use all of the IPT arrangements.

Since 1969, three of the Team members have done some intensive investigation of European schools. One, on a Fulbright scholarship to Germany, spent several months investigating German schools. Another was an exchange teacher to England. A third spent a semester's sabbatical in England looking at alternative approaches to education, with special interest in cross-disciplinary approaches. At present he is working on a proposal to set up an alternative school within Redwood High School.

The teachers were asked whether there were any lasting effects from their work with the Instructional Planning Team. The following is a summary of their responses.

1. The Team members learned to know each other well from working closely together; they learned cooperation, and this attitude has endured.

2. The Team members became more knowledgeable about the educational research and development process, and therefore more valuable to the Social Studies Department and to the school.

3. They learned how to "get things done" within the school system--how to go about getting approval for new programs.

4. They acquired some significant new conceptions about students and their reactions. Both the needs assessment activities and the experiments with innovative teaching methods were important to this new understanding. Most memorable was the realization that students are not much interested in material taught by large-group processes such as lecture and question-and-answer.

5. The Department as a whole still believes in defining goals clearly, although it has reverted to the previous system of individual teachers working out the content and settings for reaching those goals, each in his own way. According to the Team members interviewed, the defining of goals may be the most important outcome of the IPT project.

These criticisms of the IPT project were offered from the two-year perspective:

1. All Team members did not have a clear idea what was expected of them or what final outcome was anticipated from their work. The assumption was that the expected outcome was a curriculum development, or product, rather than knowledge or a process. (Note that this idea still shows in the following "criticism".)

2. While the teachers still use parts of the instructional program the Team developed, the program (which they considered to be the product) does not now look "all that interesting... This may prove that curriculum development is a continuous process; throwing out parts of the program is a good thing because it encourages teachers to improve their courses." Further, the teachers noted that one big reason for changing the program is that students change: "The class of '69 just doesn't have the same needs and interests as the class of '71." (From the point of view of the Laboratory, of course, Item 2 is hardly a criticism.)

3. The teachers still question the value of the four reports they prepared. One remarked that the IPT didn't know enough about "the scientific end of report writing to do it well enough."

4. The hour of released time was "only about 25 percent adequate." (One teacher commented, however, that more time is not realistic in terms of funds.) The IPT required too many extra hours from the teachers, almost every day until 5:30, weekends, and vacation.

IV. CONCLUSIONS

The organizational arrangement that we have called the Instructional Planning Team appears to be potentially worthwhile and useful for facilitating rational adoption of R&D innovations in a school. At the time of the project's termination in June 1969, it showed promise of eventually attaining the objectives of the District and of the Team itself. The Laboratory's decision not to continue the field test was made because the Communication Program's objectives (Page 4) were not being met and the year's experience gave no promise that this was the best way to meet them.

The Far West Laboratory is indebted to the Wisconsin R&D Center for the concept of the I&R Unit. Experience with the operation of this organizational arrangement, in its modified form, was an important stepping stone in the Laboratory's continuing efforts to contribute to the improvement of instructional planning and management. The IPT field study, among others, convinced the Communication Program staff that training materials are one of the most critical requirements for instructional planning by school personnel; and that active participation in a group process is both effective and desirable. (Active development of required training materials has been in progress for two years.)

In retrospect the project can be faulted on two counts: (a) the in-service training program was overambitious in its scope and in its demands on teacher time and commitment to the research process; (b) the activities, presented as a rational sequence of tasks, failed to solve the dilemma in which the teachers were caught between two mutually incompatible roles--instructors in a continuous classroom program, and trainees and researchers in the concepts and skills needed to develop that program in the direction the pilot study required.

The unavailability of suitable support materials for the program and training materials for the research skills hampered the Instructional Planning Team's progress through the sequence.

The time needed by the Team to perform its tasks was more burdensome, and required more commitment to the research process, than classroom teachers could be expected to maintain over a period of several years. As was to be expected of conscientious teachers, when there was not time to carry out both instructional and R&D duties the research suffered.

As an experiment in research product utilization the project was unsuccessful, since the Team developed its own innovation in preference to selecting an externally developed product for testing. It did, however, experiment briefly with adaptations of two external ideas.

Nevertheless, higher than average quality reports were produced by the Instructional Planning Team. Teamwork improved. Follow-up interviews revealed continued attention to needs assessment and to experimentation. The students benefited primarily in their increased enthusiasm for the course work and, as rated by teachers, in improved social behavior.

Further investigation must be done on evaluating the financial worth of the Instructional Planning Team to a school district. The cost is great, especially for the full-time substitute teacher required to make the released time available. This cost obviously would be doubled by providing a second hour of released time. Other means should be sought to ease the load of participating teachers, in both their instructional roles and their research roles.

Recommendations

To facilitate the improvement of this approach to R&D utilization by other organizations and school districts, the Far West Laboratory makes the following recommendations.

1. Set realistic goals for the first year, based on a felt need or perceived problem of the school personnel themselves--one for which this arrangement stands a good chance of being a viable solution.

2. Before selecting participants (preferably volunteers) or starting the project, make sure that all concerned have the same perceptions of the goals. This includes the teachers, their faculty colleagues, the school principal, district staff, and sponsoring organizations.

3. Begin by establishing a smoothly operating team and procedure, over a period of at least a school year, even then, before starting R&D utilization activities make sure that the team members are well oriented and have an understanding of the R&D utilization process in general.

4. Develop methods and techniques for selection, motivation and orientation of Team personnel.

5. Develop diagnostic tests to determine the specific skill deficiencies of school people and the tasks for which they specifically desire to receive training. Determine in advance of the beginning of such training the extent of training desired and win agreement on it by all persons involved.

6. Develop more and better methods and materials for training school people in these skills; i.e., shortcut statistical techniques; guidelines (as for needs assessment); planning guides and orientation materials; techniques of team operation, such as organization of instructional time and use of paraprofessional aides.

7. Limit statistical presentations to simple statistical treatments and emphasize the time-saving aspects of their use.

8. Become familiar with and use the terminology used by the teachers, rather than attempt to impose technical language; when necessary to introduce new terminology, use the simplest and clearest forms possible.

9. Develop administrative and clerical mechanisms for providing flexibility needed to give teachers appropriate released time without increasing the cost to the district unmanageably (e.g., decreasing the teaching load, training paraprofessional assistants to release the teachers from some instructional duties, greater use of student teachers, more independent study time for students).

10. Share certain R&D utilization tasks between the Team and the administration (e.g., design and analysis of needs assessment instruments).

11. Develop procedures to help teachers make the daily conversion from teaching to R&D utilization and vice versa.

12. Facilitate information channels to well developed instructional materials for teachers' selection and use.

13. If and when the teachers become interested in and ready to use more sophisticated evaluative techniques in the classroom, make available the use of the District's automatic data processing facilities.

14. Develop a financial accounting scheme that allows credit for the resources saved when a district does not adopt an inappropriate innovation.

APPENDIXES

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Appendix A

Responsibilities* of District and Laboratory Personnel Involved with the Instructional Planning Team

Item	Lab. Consult.	Lab. Recorder	Lab. Sup. Staff	Asst. Supt.	Dir. Instr.	Dept. Supv.	Spec. Proj. Asst.	Principal	Schl. Psychol.	Team Leader	Team Teachers	Teacher Aide	R&D Council
Assist in organizing, selecting personnel, implementing, & in-service training	P			P	S		S			S			
Perform research utilization activities related to instructional improvement.							P			S	S		
Assist with needs assessment, information search, retrieval, & interpretation to Team.	P	S		C	C	S	C		C				
Assist with data analysis & research methodology.	P						C						
Observe, describe, & evaluate the actions & processes of the Team.	S	P		S	P		S						
Prepare reports & evaluative progress studies.	S	S	S	S	C		P	S		P	S		S
Search & retrieve training material for in-service training.	S	S	P	C	S	S	C						
Provide continuing guidance in the selection of R&D problems & in the total range of project activities.	P	S		C	S		S		C				
Assist with the interpretation of Team activity to other teachers, students, parents, & community groups.								S		S	S		

Perform clerical & secretarial duties connected with Research & Instructional activities.															P
Provide resource assistance in the form of curriculum consultants & location of appropriate financial support & physical facilities.	S			S	S		S								
Provide initial staff & replacements, physical facilities, materials & equipment.									P		S				
Schedule for flexibility & planning within normal work day.				P					P		P				
Assist in locating & obtaining instructional material.	S	P			C	S				S	S	S			
When needed, arrange in-service workshops & seminars.	P				C	S	S	S							
Coordinate Team's operation with school or district programs.				P		P	S	P			S				S
Assist with critique & evaluation of operational results.	S	P		S	C	S	S	S			S				C
Act as primary liaison between District Staff & Laboratory.				S			P								
Act as primary liaison between Team & other district, school, & Laboratory personnel.											P	S			
Develop, execute & evaluate instructional program.											S	S			

LEGEND: P = Primary responsibility S= Shared responsibility C = Consulting responsibility

* These role definitions evolved in practice and were indicated on a 37-item questionnaire administered to all participants near the conclusion of the project.

Appendix B

Survey of Pre-Operational Planning and Training Seminar

Session #	Personnel Involved	Topics	Materials Used	Conclusions Reached by Team
1	Laboratory Consultant and Team Personnel.	Review of organization and goals of the pilot activity as conceived by Laboratory staff, including role of Laboratory.	A Survey of the Educational Needs of Santa Clara County, from the County Supplementary Ed. Center.	Goals of Laboratory made clearer.
		Round table discussion of teachers' perceptions of goals and objectives for Fall semester, based upon summer readings & needs assessment instruments administered to June graduates.		Decision to reject existing American Government course content & begin sequential development of a new course based upon results of needs assessment data & summer readings.
		Critique of validity of results of analysis of needs assessment questionnaire.		Consensus that items in needs assessment instrument should be rewritten & overall questionnaire shortened; consensus that the data had been collected at an inappropriate time.
		Continuation of discussion toward reaching consensus on major goals and objectives for American Government course.		Tentative consensus on two broad goals for the course, but not on subgoals. Conclusion that course should stress the student in his relation to his peers, family & community.

2 & 3	Laboratory Consultant, Team personnel, consultants in needs assessment from PACE Center, SDE Title III, AIR; Observers; school psychologist.	Strategies & rationale for needs assessment from 2 points of view (theoretical-practical; deductive-inductive). Theoretical model for needs assessment & problem formulation. North Bay PACE Center Needs Assessment Report. Initial discussion of theoretical steps in problem formulation. Comparison of Orange County Needs Assessment results with Team's results. Illustration of problem formulation techniques. Steps in identification & development of performance objectives.	A Study of Opinions Concerning Curricular Needs in Four North Bay Counties, from North Bay PACE Center. A Report on a Survey of Educational Needs, from the Orange County Supplementary Educational Center. A paper on Identifying & Formulating Educational Problems, from American Institutes for Research. Two papers on Educational Objectives, with Slides & Tape, from Los Angeles. Three documents on Performance Objectives, from the Duluth Public Schools. A document on definition, characteristics & examples of terminal performance objectives, from the North Bay PACE Center. A document on Steps in Problem Formulation.	Decision to modify needs assessment instrument & administer it to incoming students in Fall semester. Items in revised instrument taken from Santa Clara County, North Bay, & Orange County PACE Centers. Decision to follow Model suggested for Needs Assessment: a. establish a philosophical framework for course. b. translate framework into broad goals & sub-objectives based upon framework. c. verify goals & objectives from observational data from external source such as authorities in the field, & users of the educational products (students, parents, employees, etc.) d. establish priorities among Needs for Problem Formulation.

continued

Session #	Personnel Involved	Topics	Materials Used	Conclusions Reached by Team
4	Laboratory Consultant & Team Personnel.	Target population for Needs Assessment activities. Establishment of a tentative calendar of events for research & instructional activities for Fall semester, including deadline dates. Development of items for revised needs assessment instrument, & of essay question to be administered to incoming students. Sub-goals & sub-objectives for first instructional unit.		Selection of target groups for Needs Assessment questionnaire.
5	Laboratory Consultant, Team personnel, Consultant in Information Search & Retrieval Strategies (Contra Costa County PACE Center, Research Librarian).	Critique of first four sessions of Planning Seminar. Introduction to (a) common library reference sources (card catalogue, Educational Index) & (b) special collections (ERIC, SRIS). Examples of search techniques with the ERIC collection.	List of Periodical Holdings as of September 1967, Contra Costa County Educational Planning Center professional library. ERIC Materials (samples of Microfiche, Research in Education.)	None

	5	Observer: Special Projects Asst. from District.		Examples of commonly used Library reference sources. Mimeographed guide to search procedures.
	6	Laboratory Consultant, Team personnel, & Instructional Supervisor from District.	Strategies for conducting needs assessment (e.g., sources of information, respondents, analysis of data). Final calendar for Fall semester. Progress report to district-wide meeting of Social Studies teachers.	
	7-10	Team personnel.	Content materials for first week of instruction.	Consensus on goals & sub-goals for on-going course in American Government. (No consensus on performance objectives.)

Appendix C

Training Methods Considered Most Effective by the Instructional Planning Team for each of Seven Training Areas

Training Methods	Research Process Orientation	Needs Assessment	Problem Formulation	Info. Search & Interpretation	Testing of Innovations	Evaluation	Long-Range Planning	Total for All Training Areas
Discussions with Consultants	3[a]	4	3	2	1	2	2	17
Performing Tasks with Consultants' Assistance	3	4	3	3	1	3	1	17
Participation in Workshops	3	4	3	4	1	-	1	16
Brainstorming	-	2	1	-	4	3	5	15
Informal Lectures	2	1	3	1	1	-	1	8
Simulation Exercises	1	-	-	-	-	1	2	4
Articles or Pamphlets	-	-	-	2	1	1	-	4
"How to do it" Instructions	-	-	1	-	2	1	-	4
Individual Study	1	-	-	1	1	-	-	3
Field Trips	-	-	-	1	-	-	1	2
Attending College Course	-	-	-	-	1	-	1	2
Self-Instructional Guides	-	-	1	-	-	-	-	1
Writing Results	-	-	-	-	-	1	-	1
Self-Instructional Charts	-	-	-	-	-	-	-	-

[a] Number of times rated most effective by Team members.

Appendix D

Training Methods Considered Least Effective by the Instructional Planning Team for each of Seven Training Areas

Training Methods	Research Process Orientation	Needs Assessment	Problem Formulation	Info. Search & Interpretation	Testing of Innovations	Evaluation	Long-Range Planning	Total for All Training Areas
	[a]							
Articles or pamphlets	1	2	3	1	1	1	-	9
Self-Instructional Charts	2	1	2	-	1	2	1	9
Individual Study	1	1	2	1	-	-	1	6
Field Trips	2	2	1	-	-	-	-	5
Writing Reports	-	-	1	1	1	1	1	5
Informal Lectures	1	-	-	-	1	1	-	3
Brainstorming	1	-	-	2	-	-	-	3
"How to do It" Instructions	1	1	-	-	-	-	1	3
Self-Instructional Guides	-	-	-	1	-	1	-	2
Attending College Course	-	1	-	-	-	-	1	2
Simulation Exercises	-	1	-	-	-	-	-	1
Performing Tasks with Consultants' Assistance	-	-	-	-	1	-	-	1
Discussions with Consultants	-	-	-	-	-	-	-	-
Participation in Workshops	-	-	-	-	-	-	-	-

[a] Number of times rated least effective by Team members.

Appendix E

Satisfaction of School and District Personnel with Operation of Instructional Planning Team

Item	IPTeam N=5	Other Schl. Personnel* N=4	R&D Council & Cent. Staff** N=5	Avg. of All Responses N=14
1. Level of instruction which students receive	3.0	5.0	4.8	4.1
2. Academic performance of students	2.6	5.0	3.6	3.4
3. Social interaction of students	4.0	4.5	4.6	4.4
4. Level of student behavior	4.0	4.5	4.6	4.0
5. Services, advice, and role provided by central staff personnel	3.4	-	4.4	3.8
6. Services, advice, and role provided by school staff not directly connected with Team	3.6	3.5	4.6	3.9
7. Services, advice, and role provided by Laboratory staff	4.2	5.0	4.8	4.6
8. Services and advice given by the school administrative staff	3.6	3.5	4.0	3.7
9. Amount and quality of clerical assistance provided	3.8	2.0	2.4	3.0
10. Physical facilities	2.6	2.3	2.4	2.4
11. Financial facilities	4.2	3.0	4.8	4.3
12. Quantity and quality of instructional equipment & supplies	4.0	4.5	4.7	4.3
13. Overall work plan and calendar	2.4	4.0	4.0	3.4

14.	Individual daily work schedule	2.4	4.0	2.8	2.6
15.	Organization and work procedures	1.6	3.5	3.6	2.6
16.	Adequacy of pre-operational orientation	2.0	4.0	3.6	3.0
17.	Instruction and aid given in techniques of needs assessment	3.8	5.0	4.6	4.2
18.	Instruction and aid given in techniques of problem formulation	3.4	5.0	4.0	3.8
19.	Instruction and aid given in techniques of defining performance or behavioral objectives	3.2	5.0	3.8	3.6
20.	Instruction and aid given in techniques of information search and retrieval	3.2	4.5	4.4	3.9
21.	Instruction and aid given in techniques of data analysis	3.2	5.0	4.4	3.8
22.	Instruction and aid given in techniques of evaluation	3.4	4.0	3.6	3.5
23.	Instruction and aid given in the techniques of long-range planning	2.8	4.0	3.4	3.0
24.	Instruction and aid given in the techniques of decision-making	3.0	3.0	4.4	3.4
25.	Time allotment for Team activities	2.4	3.5	2.8	2.6
26.	Amount and type of instructional improvement attempted	3.2	4.0	4.0	3.6
Average level of satisfaction		3.2	4.4	3.9	3.6

Note.--Responses were made on a five point scale ranging from 5 (very satisfied) to 1 (very dissatisfied).
* Other Redwood personnel includes - Principal, Social Studies teachers, Social Studies Supervisor, and Librarian.
** Central Staff includes - Assistant Superintendent, Director of Instruction, Instructional Supervisor, and Special Projects Assistant.

Appendix F

Interests of IPT Teachers at Start and Conclusion of Pilot Study and Interests of Other Teachers at Conclusion

Item	IPT Members 1968	IPT Members 1969	Group A* 1969	Group B** 1969
New Developments in The Teaching of:				
Science	1.7	1.8	2.7	2.6
Reading	3.5	2.6	3.7	2.9
Modern Math	1.5	1.6	2.1	1.7
Health and Physical Education	2.0	1.6	2.7	2.2
Art and Humanities	3.5	3.6	3.4	3.6
Writing and Composition	3.0	2.6	3.1	2.9
Modern Foreign Language Instruction	2.2	1.6	2.3	2.1
Social Science	3.7	4.0	4.0	4.0
English Language Instruction	2.2	2.2	2.9	2.4
Vocational Education	2.2	1.6	2.9	2.1
New Methods, Organization, or Technology				
Programmed Instruction	2.7	2.0	2.9	2.9
Interdisciplinary Approach	-	3.6	3.6	3.9

Note.--Ratings were made on a four-point continuum, ranging from 1 (No interest) to 4 (High interest).

* Group A: Social Studies teachers at Redwood High School.

** Group B: American Government teachers at other District Schools.

continued

Appendix F

Item	IPT Members 1968	IPT Members 1969	Group A* 1969	Group B** 1969
Computers in the School	2.2	1.8	2.4	2.0
Simulation Techniques	-	3.6	3.9	3.3
Learning Laboratories	3.0	2.1	3.1	2.7
Inquiry-Discovery Method	-	3.6	4.0	3.3
Information Reduction, Storage and Retrieval	2.5	1.9	2.3	2.6
Pass-Fail Grading	-	3.6	3.6	3.4
Individually Prescribed Instruction	3.7	3.4	3.7	3.4
Emphasis on Student Values and and Attitudes Rather Than Content	-	4.0	4.0	4.0
Team Teaching	3.7	4.0	2.9	3.7
Independent Study Techniques	-	3.4	4.0	3.9
Non-Graded Schools	3.2	3.4	3.0	3.6
Sensitivity Training	-	3.4	3.1	2.9
Audio-Visual and Multi-Media Developments	3.2	3.4	3.6	2.7
Modular Scheduling	3.2	3.0	3.1	3.7
Special Topics:				
Defining and Assessing Educational Objectives	4.0	3.6	3.7	3.3
Interpersonal Relations between Administrators, Faculty, and Students	-	3.4	3.4	3.7

continued

Appendix F

Item	IPT Members 1968	IPT Members 1969	Group A* 1969	Group B** 1969
Education and the Structure of Knowledge	3.5	3.2	3.6	3.1
Integration of Innovations	-	3.0	4.0	3.0
Cognitive Development	3.5	3.2	3.6	2.9
Movement from Innovation to Practice	-	3.4	3.7	3.0
Learning Styles	3.7	3.0	3.6	2.9
Motivation of Alienated Youth	-	3.4	3.6	3.6
The Changing Role of the Teacher	3.7	3.6	3.7	3.3
Problem-solving Process	-	3.6	3.9	3.6
Micro-teaching and In-service Training for Teachers	3.2	3.4	3.3	2.6
Research Structures for School Districts	-	2.4	2.9	2.1
Federal Assistance to Education	2.2	3.4	3.1	2.9
Evaluation of Programs	-	3.2	3.4	2.4
Teaching the Culturally Disadvantaged or Different	2.7	3.2	2.9	3.3
De facto Segregation and School Integration	2.7	3.4	3.1	3.4
School-Community Relations	2.5	3.4	3.4	3.3
Educational Parks	3.0	3.0	2.3	2.7

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